Life cycle of *Cochlodina laminata* (MONTAGU, 1803) in the laboratory and in the field

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I started my research in 1991 parallely in a natural reserve (beech forest in Muskowice - SW Poland) and in the laboratory. I observed the life history of *Cochlodina laminata* (MONTAGU, 1803) from hatching to maturity. In the laboratory I observed 521 snails, in the field about 850 individuals. Copulation was only observed in the field. It lasts few hours. Eggs are laid from the beginning of April to the end of May and in September/October. But the second breeding season is less numerous. The number of eggs per clutch ranged between 1 and 27. Eggs were laid in rotting wood or in the litter. Eggs are partly calcified, translucent, sphaerical, the average diameter is 1.3 mm. The results were the same in the laboratory and in the field. The incubation period is 7-16 days (mean 11.5) and depends on the temperature. The hatching process lasts about 10 hours. The newly hatched snails spend their first 20 hours near the clutch, eating the egg envelop. In the laboratory the growth to maturity ranges from 95 to 365 days (mean 225), in the field from 95 to 405 days (mean 280). The mean time of formation of particular whorls is similar in the laboratory and in the field. The neonates have shells with 2-2.75 whorls.

From hatching to 3 whorls they need 2-21 days; from 3 to 4 whorls 8-32 days; from 4 to 5 whorls 11-39 days; from 5-6 whorls 10-34 days; from 6 to 7 whorls 11-46 days, from 7 to 8 whorls 10-73 days; from 8-9 whorls 14-56 days; from 9-10 whorls 10-83 days; from 10 to 11 whorls 11-120 days; from 11 to 12 whorls 18-70 days. The lifespan is almost 7 years in the laboratory and in the field as well.

In the field the snails lay eggs on the ground (mostly on rotting wood) in spring. Subsequently they climb up beech trees where they stay from 0.2 to 2 m above the ground level. During this period copulation takes place (the same observations were made in in a beech forest in Austria, near Klagenfurt). The snails leave trees in September and October and spend the winter in rotting wood or soil.

Natural diet of the two coexisting land snails, *Arianta arbustorum* and *Arianta chamaeleon* (Helicidae)

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To examine differences in food preference of the sympatric land snails *Arianta arbustorum* and *A. chamaeleon*, individuals of both species were collected from 5 populations in the south-eastern Alps (Lake Wolay, Carinthia, Austria). The snails were kept singly in plastic containers until they had defecated (24-48h) after which they were released at the place where they were collected. Analysis of faeces are carried out to record the food selection of the two coexisting land snails. The faecal material produced by each snail is put on a microscope slide. Glycerine-gelatine is added and each component of the faeces is measured (in mm) and classified according to its colour. To aid identification, a reference collection of faeces was prepared by feeding the snails with known plant species. The goal of this classification is to determine the amount of living (green) or senescent and dead material (brown) and to identify the composition of the plant species (by specialised epidermal hairs etc.). Differential food consumption would indicate niche differentiation which may allow populations of both *Arianta* species to coexist.